Addressing burnout by enhancing resilience in a professional workforce: A qualitative study

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Addressing burnout by enhancing resilience in a professional workforce

Abstract  This study aimed to explore the application and effectiveness of interventions with non-physician, professional management engineering and internal consulting staff experiencing increasing levels of burnout in a healthcare environment. We hypothesised that interventions could be applied to decrease levels of burnout in this professional population. A total of 120 engineering and consulting professionals across three locations of our institution received education during four one-day events over a two-year period regarding the symptoms and drivers of burnout, and interventions to decrease it. This education, along with skill-building exercises to promote resilience, was provided by leading subject matter experts in burnout reduction and was reinforced at the worksite by peers, leadership and validated supporting resources. Changes in burnout were assessed through responses to an institutional survey. Results indicated a meaningful absolute decrease in burnout of 12 per cent between 2013 and 2015. Additionally, qualitative feedback from staff supported the efficacy of the burnout and resilience programmes. Stress and burnout are ongoing issues in the workplace because they potentially affect productivity, effectiveness and well-being. Equipping staff to manage stress and burnout with the help of resilience education, skill building and worksite reinforcement will enhance resilience skills and decrease negative consequences of stress and burnout.

KEYWORDS: burnout, resilience, staff satisfaction, stress, work-life balance, well-being

BACKGROUND
Mayo Clinic is the largest integrated, not-for-profit medical group practice in the world. Mayo Clinic experts work together, across disciplines, to provide patients with whole-person care that meets their needs. In 2015, 1.3 million people from all across the United States and 143 other countries chose Mayo Clinic. In addition to medical care, Mayo Clinic provides health information and guidance to consumers from all over the world. Mayo Clinic has major campuses in Rochester, Minnesota; Scottsdale and Phoenix, Arizona; and Jacksonville, Florida. The Mayo Clinic Health System has many hospitals and clinics in several states. The Mayo Clinic Care Network consists of more than 40 affiliated national and international healthcare organisations. The staff at Mayo Clinic includes approximately 4,200 physicians and scientists, 2,400 residents and fellows and 52,900 allied health members.

The past decade has seen an increasing global need for a greater partnership between internal consulting, analytics, project management, systems engineering and the delivery of health care. This partnership is crucial to optimise the quality, safety, patient experience and productivity of healthcare systems. Mayo Clinic has a long history and vibrant culture of using internal consulting, analytics, systems engineering and project management to enhance patient care, research, education and administration. More than 100 years ago, Dr. Henry Plummer, one of the first physicians hired by Mayo Clinic, applied systems engineering principles to medical practice. In 1947, Mayo Clinic formed a small industrial engineering and internal consulting team, known as Systems and Procedures, to improve system performance, to enhance patient experience and to replicate best practices from other industries.

Today, the Systems and Procedures team is known as the Department of Management Engineering and Internal Consulting (ME&IC), with more than 200 professional staff that includes department leadership members, health system engineers,
Box 1: ME&IC mission, vision and value proposition

Mission
ME&IC will partner with Mayo Clinic colleagues to achieve the best patient experience through objective, innovative and integrative business consulting.

Vision
ME&IC will be Mayo Clinic’s premier business consulting team.

Value Proposition
ME&IC creates and delivers value by:

• understanding the internal and relevant external business environment
• aligning with the strategic direction of the organisation
• developing a high-performing team of consultants, engineers and project managers
• building a robust and innovative set of frameworks, methods, models and tools
• measuring its ongoing effectiveness
• establishing strong relationships within and outside the organisation

Abbreviation: ME&IC, Department of Management Engineering and Internal Consulting.

INTRODUCTION
Burnout is well documented among groups whose work involves intense personal interactions, such as teachers, social workers, police officers, nurses and physicians. Factors such as lack of control over various processes, time-sensitive aspects of patient care, poor communication and coordination between roles, and lack of engagement and teamwork contribute to emotional exhaustion and depersonalisation among healthcare professionals. Work that once was important, meaningful and challenging becomes unpleasant, unfulfilling and meaningless. Energy turns into exhaustion, involvement turns into cynicism and efficacy turns into ineffectiveness. In one study in 2015, more than half of physicians in the United States reported at least 1 sign of burnout; this represented a 9 per cent increase over the level found in a study from three years earlier.

Research from the American Psychological Association and the American Institute of Stress indicates that job pressure is the greatest cause of stress in the United States. At our institution, the ME&IC is engaged with most of the strategic and operations priorities of the institution. The ME&IC staff started to experience increased workload, complexity of project assignments, a focus on change agility, and the dynamic internal and external healthcare environment, which began to cause burnout. Leadership of the department received feedback during group meetings, through individual interactions and through other avenues on the stress and burnout experienced by staff. An all-staff survey in 2013, which included questions from an abbreviated version of the Maslach Burnout Inventory and was
used to measure burnout,\textsuperscript{6,7} showed a 17 per cent increase in overall burnout in this department compared with the previous survey two years earlier. The 2013 stress and burnout results for ME&IC staff were similar to the results for employees of the institution overall (Table 1).

After a series of discussions and review of data, ME&IC leadership and staff unanimously agreed that addressing burnout and stress would be a strategic priority for the department. An assessment of the experiences and work of ME&IC staff, focused on large and complex consulting and systems engineering projects across multiple locations, identified the following factors as contributing to stress for ME&IC staff:

- Trying to work on everything and eager to please everyone
- At the end of a hard day at work, staff are unsure if they have made a meaningful difference
- Feel as though the work being done is not recognised—the unsung contributor
- Lack of a reasonable balance between work and personal life
- Having to work with and adjust to very many customers, which leads to little control over work
- Constant change in complexity, relationships, and agility of internal consulting work
- High expectations of customers

Healthcare has witnessed much research on burnout, and interventions have been developed to address this problem in some job categories such as those of physicians.

ME&IC leadership decided to consider the transferability and translation of physician burnout interventions to internal business consulting and engineering professionals in the ME&IC department and, towards that end, enlisted institutional experts in burnout, resilience and stress management.

As an investment in our staff, it was important to provide ME&IC staff with personal and organisational approaches to promote well-being. The ME&IC department’s annual strategic and skill-building retreats were thus repurposed and used as the main delivery mechanism for providing burnout and stress management skills in 2014 and 2015. This approach was used to ensure that staff could attend despite busy schedules and to leverage the value of peer support enabled through a shared retreat experience. Changes in perceptions of burnout after these interventions were assessed through a survey and compared with previous results. We hypothesised that the interventions would decrease levels of burnout in this professional population.

**METHODS**

The data for this study were collected for administrative purposes and deemed exempt by our institutional review board.

**Understanding burnout and well-being**

The retreats are one-day events, held twice a year during protected time and attended by all department staff, including leadership. These sessions are planned and facilitated by the ME&IC Retreat Team,
which is composed of staff representatives from all locations. The first retreat focused on recognising burnout, understanding the contributing factors, and identifying individual and organisational approaches to mitigating burnout and promoting well-being. As per the burnout inventory by Maslach et al., burnout is a syndrome with 3 components, namely depersonalisation, emotional exhaustion and low personal accomplishment, which leads to decreased effectiveness at work. Persons with burnout may also face spillover into their personal lives and become cynical, cold and indifferent. Although everyone experiences the components of burnout to some degree, it is the frequency and severity that create the occupational syndrome of burnout. The American Institute of Stress defines burnout as ‘a disabling reaction to stress on the job’. Recent national studies suggest that approximately one in four American workers exhibits symptoms of burnout. The most dedicated and committed persons may be at the greatest risk of professional burnout. ME&IC members take pride in helping others, have a strong sense of responsibility, and work with a sense of passion to enable the success of the institution, clients and projects for the benefit of patients.

Important drivers of burnout include excessive workload, work inefficiency, loss of flexibility/autonomy, problems with work-life integration and loss of meaning in work. For the purpose of the first retreat, we chose to address burnout from the context of factors within the control of the department and the individual. Table 2 contains the output of participant discussions during the retreat to identify improvements and solutions for the ME&IC department to pursue.

Personal approaches to promoting well-being and addressing burnout include identifying values, optimising meaning in work and nurturing personal wellness. Identifying personal and professional values and goals allows individuals to uncover areas of misalignment. Ideally, values and experiences are aligned and mutually supportive to achieve the right individual balance between personal and professional life. When values/priorities and experiences are divergent, people are unable to accomplish both personal and professional goals. One study found that spending less than 20 per cent effort on the professional activity a person finds most meaningful greatly increased the risk of burnout. This finding would have important implications in any consulting firm in which decisions for staffing client engagements are driven by aligning institutional strategic priorities, staff availability, skill requirements and personal interests, usually in that order.

The finding that jobs must include a minimum of 20 per cent individually meaningful work to avoid burnout provided the rationale to develop a department-level solution to enhance the staffing process. It also suggests that people are willing to spend 80 per cent of their time completing the tasks necessary for the organisation as long as at least 20 per cent of their effort is allocated to the most meaningful aspect of work. In addition, an imbalance between using one’s skills and the challenge of assignment can result in boredom or anxiety, whereas a harmonious balance results in a flow experience marked by immersion in focus (concentration) with the task, an impression of control, happiness and general well-being and feeling that the task is worth doing. During the retreat, ME&IC staff conveyed the desire to make progress towards this goal by requesting better alignment of their project engagements with their skills and interests.

Recognising work likes and dislikes is foundational for finding ways to optimise time, performing meaningful work and eliminating or reducing stressful activities. Distress is experienced when stressors are severe, repetitive or long lasting. Human systems are not well designed to handle severe or chronic stressors, and such overload
Well-being is more than the absence of distress. Nurturing personal well-being involves assessing satisfaction in the areas of self-care, relationships, spiritual practices and personal interests to identify and formulate improvement plans. The components of happiness include pleasure (positive emotions, leading to a pleasant life), engagement (being absorbed, leading to a good life) and meaning (serving something larger than self, leading to a meaningful life). These three components form the basis of a balanced psychology and a full life.

**Stress management and resilience training**

In the 1950s, two cardiologists, Rosenman and Friedman, studied the mind-heart connection between stress and heart disease and showed that stress endangers health, relationships, success and peace of mind. They noted two distinct groups of patients...
based on patterns of behaviour displayed during office visits. The group they termed Type A were tense, impatient and unable to stay seated and relax, as displayed by wear patterns on the front edge of chairs and armrests. The authors showed a link between the restlessness and anxiety of personality Type A and heart disease. Now known as Type A Behaviour Pattern, the description applies to competitive, time-urgent, aggressive, hard-working people who have a strong drive to succeed and a need for control. Those classified as Type A had twice the incidence of coronary heart disease as those classified as Type B personalities, who exhibit behaviours of patience, ease and even-temperedness. Following on that study, the Western Collaborative Group Study found Type A personalities to have twice the incidence of heart attacks as Type B personalities. The study found that Type A behaviour, as assessed by a structured interview, was associated independently with the risk of coronary heart disease and constituted a 2:1 risk. Type B personalities were shown to be more relaxed, do one thing at a time, express their emotions and be less likely to have high blood pressure and heart attacks. All these studies have been challenged over time, yet there is no conclusive evidence to dispute their findings. Further research regarding heart disease and Type A personality continues to verify the correlation of heart disease and coronary events with hostility and anger components of Type A behaviour. Dr. Alan Zimmerman noted that perfectionists create stress and anxiety for themselves and everyone around them, much like the description of a Type A personality. Regardless of personality type, coping mechanisms to deal with stress are important. People who experience the most personal and professional success are those who are most able to manage their stress effectively.

Recognising that workloads are ever-increasing and the pace of change is drastically increasing, ME&IC leadership sought to enhance the resilience skills of staff to be able to meet the needs of the future in a sustainable fashion, adhering to our institution’s philosophy of whole-person care, ensuring that physical, emotional and spiritual needs are addressed for well-being. An innovative approach, Stress Management and Resiliency Training (SMART) integrates elements from neurosciences, psychology, philosophy and spirituality to offer a scientific approach to stress management. The SMART programme was delivered to the ME&IC department over the course of three sessions, beginning with a retreat in 2014 and concluding in 2015.

Stress can be described as the mind’s struggle with ‘what is’. Stress is experienced when there is demand, resource imbalance, lack of control and lack of meaning. Stress results primarily from an interaction between the actual events in your life and how you perceive them. The reality is that the actual events may or may not be amenable to change. We have the option to control our perception and response. Resilience is the ability to handle stress and bounce back. It is the ability to maintain attention, judgment and decision-making in the midst of stress. It is the ability to have a higher meaning and altruistic purpose to life and also to balance our fear and optimism.

The first session of the science-based SMART programme concentrated on understanding the neuroscience of the brain and behavioural aspects of human experience with respect to stress and resilience. Some research has suggested that there are brain circuits involved in the ability to maintain a positive outlook. Research also indicates that people who are able to be more resilient have this ability to sustain positivity. The brain functions in two modes: the focused mode and the default distracted mode of the wandering mind. The wandering mind is self-focused and associated with producing stress and anxiety. Practising gratitude focuses attention on positive thoughts to reduce stress. In studies, gratitude has led to increases
in positivity, improved the amount and quality of sleep and improved relationships. Mindful presence, concentrating on observing and experiencing the interaction and surroundings, can help the brain notice and refocus on what it once found salient as though it were a new experience, providing interest and operating in the focused mode, thus reducing the amount of time the brain spends wandering in the distracted mode. One of the exercises for mindful presence involved concentrating on what the other party was saying, using eye contact and positive expressions, asking questions and suspending judgment for at least five minutes, with an intention to appreciate the person speaking as they are. A book discussing additional methods and practices for managing stress was made available at a nominal price during and after the retreat for voluntary independent study. Asking staff to pay for the book was a strategy to encourage them to invest in themselves and, by doing so, make a commitment to using the resource that they were paying for.

The second session featured a follow-up presentation along with a question-and-answer session to reinforce gratitude and mindfulness. The third session focused on practical approaches and skill building with applications of kind attention and resilience thinking to change the brain’s wiring and move past the tendency towards negativity and fear. The participants received information on practical approaches to enhance engagement and emotional intelligence and thereby decrease stress and anxiety, increase resilience, enhance performance and improve relationships. Wishing others well, silently, is an application of kind attention. Focusing on practising one resilience principle per day (Table 3) is a manageable step towards training healthy thinking and a positive mindset that influences well-being. Participants were provided with a pocket-sized card as an enduring reference that listed the day and corresponding resilience principle to practice. Three to six months of daily practice are generally needed to instil the principles and retrain our emotions (Table 4).

Measuring changes
Our institution’s all-staff survey is conducted every two years and measures employee satisfaction and engagement, as well as discretionary effort and organisational culture. As a tool, the survey helps to identify what most influences these attributes at the institution overall and within work areas. The ME&IC staff satisfaction survey results are a vital input in the biennial department strategic plan. The survey results from 2015, after the interventions, were compared with those from 2013 to identify changes in burnout as a result of the training.

<table>
<thead>
<tr>
<th>Day</th>
<th>Resilience principle</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Gratitude</td>
<td>Start your day by finding five things to be thankful for</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Compass</td>
<td>Recognise that everyone experiences pain, loss and suffering</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Acceptance</td>
<td>Accept yourself as you are and others as they are</td>
</tr>
<tr>
<td>Thursday</td>
<td>Meaning and Purpose</td>
<td>Focus on the ultimate meaning and purpose of your life</td>
</tr>
<tr>
<td>Friday</td>
<td>Forgiveness</td>
<td>Start by forgiving yourself for past mistakes and then move on to forgiving others</td>
</tr>
<tr>
<td>Saturday</td>
<td>Celebration</td>
<td>Within your own lifestyle</td>
</tr>
<tr>
<td>Sunday</td>
<td>Reflection and Prayer</td>
<td>Related to your own beliefs</td>
</tr>
</tbody>
</table>

Table 3: SMART Training: days of the week practice

Adapted from Sood.29
Table 4: Training and aids to enhance ME&IC staff resilience

<table>
<thead>
<tr>
<th>SMART Programme session</th>
<th>Topics</th>
<th>Reminders and voluntary activity</th>
<th>Reference and support materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• Focused vs wandering modes of the brain</td>
<td>• Wellness Champions Programme</td>
<td>• Book: Mayo Clinic Guide to Stress-Free Living</td>
</tr>
<tr>
<td></td>
<td>• Gratitude: Regularly express gratitude for five people</td>
<td>• Gratitude jars</td>
<td>• SMART Handout</td>
</tr>
<tr>
<td></td>
<td>• Practising mindfulness</td>
<td>• Website: stressfree.org</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• Follow-up, questions and answers regarding practising gratitude</td>
<td>• Wish others well</td>
<td>• Book: Mayo Clinic Guide to Stress-Free Living</td>
</tr>
<tr>
<td></td>
<td>and mindfulness</td>
<td>(silently)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>• Kindness and mindset</td>
<td>• Practise focused mind</td>
<td>• Day of the week pocket cards</td>
</tr>
<tr>
<td></td>
<td>• Resilience thinking</td>
<td>• Practise days of the week</td>
<td>• Book: Mayo Clinic Handbook for Happiness</td>
</tr>
</tbody>
</table>

Abbreviations: ME&IC, Department of Management Engineering and Internal Consulting; SMART, Stress Management and Resiliency Training Programme.

RESULTS
A total of 120 engineering and consulting professionals across 3 locations of our institution received education during four one-day events over a two-year period regarding the symptoms and drivers of burnout and interventions to decrease it. Two follow-up assessments were used: an immediate post-retreat survey and changes in scores in key metrics from the all-staff survey. Post-retreat surveys indicated that the training sessions supported the ME&IC strategic plan objective to improve burnout and enhance resilience:

- 88 per cent highly agreed that the topic of burnout was educational
- 74 per cent felt able to identify themes for the strategic plan to improve burnout
- 98 per cent felt that the SMART programme provided knowledge, practical tools and new skills to reduce stress and the level of burnout felt from work
- 92 per cent felt confident in their ability to apply the skills learned in the SMART programme.

Additionally, qualitative data from the retreat surveys indicated that members were grateful for the training and expressed the value of the Burnout and SMART programmes through comments such as the following:

- ‘This is one of the best gifts you could provide the staff.’
- ‘We are all better people after today.’
- ‘I couldn’t ask for anything more.’
- ‘Helpful solid advice that I have applied at work and at home.’

Meaningful improvements in important outcomes over the two-year cycle were captured using the 2013 and 2015 all-staff survey ME&IC department responses (Table 5).

DISCUSSION
The multipronged approach to improving staff resilience to combat burnout and manage stress included the following:

- training from leading experts
- integrated Wellness Champion activities
- reinforcement through reminders and discussion at staff meetings
- access to enduring reference materials
- changes to the staffing assignment process
- proactive monitoring of planned project closure dates
Addressing burnout by enhancing resilience in a professional workforce

Table 5: Main outcomes after intervention: comparison of ME&IC responses to 2013 and 2015 all-staff surveys

<table>
<thead>
<tr>
<th>Statement</th>
<th>Respondents agreeing</th>
<th>Post-intervention (2015)</th>
<th>Improvement$^c$</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel burned out by my job$^d$</td>
<td>30 (29%)</td>
<td>25/144 (17%)</td>
<td>12%</td>
</tr>
<tr>
<td>I am more callous towards people since taking this job$^e$</td>
<td>12/104 (12%)</td>
<td>9/144 (6%)</td>
<td>6%</td>
</tr>
<tr>
<td>I am satisfied with my work-life balance</td>
<td>82 (78%)</td>
<td>125 (86%)</td>
<td>8%</td>
</tr>
</tbody>
</table>

Abbreviation: ME&IC, Department of Management Engineering and Internal Consulting.

$^a$ 105 responses from 111 employees (94.6% response rate).

$^b$ 145 responses from 154 employees (94.0% response rate).

$^c$ All outcomes are interpreted as a significant difference (see Supplemental Figure) and meaningful improvement based on the survey sample size of >120 people.

$^d$ Emotional exhaustion domain of burnout (6,7).

$^e$ Depersonalisation domain of burnout (6,7).

Supplemental Figure Calculation of significance provided by the survey organisation. Adapted from Mercer/Sirota, Purchase, NY.

- deliberate operationalisation of project implementation and closure of the client engagement
- monitoring of resource allocation and standardised guidelines for significant swing (>10 per cent) adjustments to prevent workload overburden or underburden
- leadership involvement in project engagement meetings with the client
and ME&IC consultants to confirm responsibilities, deliverables and align expectations
• telework programme implementation.

Although the results of the bundled intervention to improve resilience demonstrate qualitative and quantitative success, limitations exist for measuring each aspect of the intervention separately on its own merit. Known variables that may affect the results include changes in the staff pool from the pre-intervention to the post-intervention survey, consistency in the adoption of the interventions, participation in voluntary Wellness Champion activities, opportunities to adjust long-term project assignment commitments, participation in the telework programme, and duration of post-intervention time before remeasurement. Although the study results are limited to 120 internal business consulting (administrative) professionals working in healthcare, findings from the surveys and feedback indicate that the Burnout/Well-Being and SMART training programmes and interventions designed for and delivered by physicians are applicable and effective for non-physician participants. On the basis of our limited results, the hypothesis that the principles in the Burnout/Well-Being and SMART programmes are universal in their application and can be contextualised for participants beyond physicians and the healthcare environment is supported, yet it needs broader application and research to be further validated.

We will also need to understand the sustained impact of these interventions. The internal and external environment is evolving and changing constantly. New staff who joined the department since the beginning of 2016 and have not been exposed to the training and associated activities may struggle to deal with burnout and stress. We would perhaps need to develop just-in-time training and other interventions to help our new staff. Finally, all people are different, with diverse emotional, social, and anxiety characteristics, and it is hard to assess how the interventions affected individual staff members.

Lessons learned
Even though burnout, well-being and stress have been well researched, we learned some valuable lessons on this journey:

• The staff satisfaction survey results were a great resource to identify the issue of burnout and to evaluate the effectiveness of interventions to address it
• ME&IC leadership made it a priority to decrease the rate of burnout. Leadership support in prioritising this issue was crucial in pursuing the topics of burnout and resilience
• It was critical to have deeper understanding and input from staff regarding the opportunities at the department level to affect the drivers
• Even though burnout rates were higher only among the ME&IC staff at one site, proactive training on burnout/well-being and resilience was well received by staff at other locations
• Additional just-in-time training on the topics of burnout/well-being should be made available for newer staff so they have the opportunity to learn
• SMART training is now available to all staff at the institution. ME&IC staff should be made aware of these opportunities and encouraged to participate in this training.

Conclusion
The strategic initiatives that ME&IC support continue to grow in complexity, with unprecedented levels of sustained maximum workload, demand for advanced new-to-market engineering skills, and pressure to speed the delivery of quantifiable results, as health care providers adapt to
payment reform and an ambiguous future. We have equipped our staff with skills to identify and overcome burnout and develop higher levels of well-being and resilience to bounce back from increasing levels of stress on the journey ahead. We have also implemented departmental solutions to mitigate the drivers of burnout and to promote well-being in our quest to improve the quality of work-life balance for our staff, thus contributing to the continued success of the ME&IC department. As we begin our next cycle of strategic planning, we are expanding our resilience focus on identifying, increasing and celebrating higher purpose and meaning in our work.

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Conflict of interest: Dr. Sood and Mayo Clinic have a Financial Conflict of Interest related to this research. This research has been reviewed by the Mayo Clinic Conflict of Interest Review Board and is being conducted in compliance with Mayo Clinic Conflict of Interest policies.

References

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10. Ibid., ref. 4 above.
19. Ibid.
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